



NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF HEALTH, NATURAL RESOURCES AND APPLIED SCIENCES

SCHOOL OF AGRICULTURE AND NATURAL RESOURCE SCIENCES

DEPARTMENT OF NATURAL RESOURCE SCIENCES

QUALIFICATION: BACHELOR OF NATURAL RESOURCE MANAGEMENT	
QUALIFICATION CODE: 08BNRH	LEVEL: 7
COURSE CODE: BCM721S	COURSE NAME: BIODIVERSITY CONSERVATION AND MANAGEMENT
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DURATION: 3 HOURS	MARKS: 70

SECOND OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Prof. Vera De Cauwer
MODERATOR:	Dr Mark Bilton

INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Write clearly and neatly.3. Number your answers clearly.4. Show your detailed work for calculations.

PERMISSIBLE MATERIALS

1. Calculator

THIS QUESTION PAPER CONSISTS OF 2 PAGES (Excluding this front page)

Question 1**[3]**

Name three objectives of a protected area.

Question 2**[15]**

Indicate if the following statements are True or False. If false, correct the statement.

a) The City of Windhoek has a climate strategy and action plan.
b) A carbon sink absorbs more carbon than it releases.
c) A grazer unit is the metabolic equivalent of a blue wildebeest with a mean body mass of 450 kg.
d) Rubber vine is an invasive alien species.
e) When genetic diversity decreases, a species' ability to adapt and survive decreases.
f) The predicted (projected) temperatures by the end of this century are different for each Representative Concentration Pathway (RCP).
g) The wild ancestor of the donkey is a common species in Africa.
h) Vegetation and soil are part of a species' habitat.
i) Activities of research projects and monitoring programmes can overlap and support each other.
j) Management should address both levels of biodiversity: ecosystem and species diversity.
k) The source of the Kavango River is in Zambia.

Question 3**[4]**

Give the FAO definition of forest.

Question 4**[5]**

Complete the sentence with one word or concept.

- a) A synonym for ecological capacity is ...
- b) A browser unit is the metabolic equivalent of a ... with a mean body mass of 140 kg.
- c) Biogas mainly consists of ...
- d) ... are actions to help people adjust to the effects of climate change.
- e) The ... is the complete genetic information of an organism.

Question 5**[7]**

What do forest managers do? Give five examples of activities of forest managers.

Question 6**[4]**

What is the main guiding principle for rangeland management?

Question 7**[12]**

A nature reserve has 1,000 ha of grassland and 10,000 ha of bushland. There are 100 blue wildebeest, 200 springbok, 20 kudu and 50 plains zebra. Grass production over the last growth season was estimated at 300 DM kg/ha and the utilization factor was 60%. Note that the fodder requirement of 1 GU is 4.5 kg per day. A springbok is 0.2 GU and 0.1 BU, a Burchell's zebra is 1.9 GU.

- a) What is the stocking rate of grazing units?
- b) What is the stocking rate of browsing units?
- c) What is the grazing capacity?
- d) How many grazing units can the farm support?
- e) Is the reserve under or over-stocked with grazers? Is there sufficient grass?

Question 8**[8]**

How can you ensure meaningful research for biodiversity and conservation management?

Question 9**[9]**

- a) How can landscape-level conservation be achieved? [7]
- b) Give two examples of an existing landscape-level conservation area in Namibia. [2]

Question 10**[3]**

Name three actions that conservation managers can take to enhance the carbon sink.